

**REMARKS**

This is responsive to the restriction mailed March 31, 2010. Applicants submit the following elections with traverse and remarks.

**The pending claims are as set forth in the Preliminary Amendment**

Before addressing the restriction, Applicants want to point out that the currently pending claims are claims 1-26 as set forth in the *Preliminary Amendment* filed August 7, 2006. Applicants point this out because the restriction refers to claims 1-25, which may indicate that the Office is examining the claims of the PCT application (which included 25 claims) rather than the claims of the Preliminary Amendment (which included 26 claims).

For the convenience of the Office, this response includes a listing of the currently pending claims as set forth in the Preliminary Amendment.

**Restriction**

A **first restriction** is made between:

**Group I:** Claims 1-12, 15-17, 19, and 21-25 which are alleged to be drawn to a system for executing biological experiments, classified in class 702, subclass 20;

**Group II:** Claims 13, 14, 18, and 20 which are alleged to be drawn to a biological tracking system, classified in class 435, subclass 006.

A **second restriction** is made between the following four species:

*Species (i)* generating offspring chromosomes by mating selected parent chromosomes of the present chromosome population, each offspring chromosome having an expressed sub-set-size gene value within a range defined by expressed sub-set-size gene values of the parent chromosomes from which that offspring chromosome is generated, as in claim 3;

*Species (ii)* generating offspring chromosomes having (i) values of genes other than the expressed sub-set-size gene selected from a group consisting of the set of values of genes of the parent chromosomes other than the expressed sub-set-

size genes of the parent chromosomes, and (ii) a value of the expressed sub-set-size gene selected within a range defined by the expressed sub-set-size gene values of the parent chromosomes, as in claim 7;

*Species (iii)* each offspring chromosome being generated from two parent chromosomes of the present chromosome population by: (i) filling genes of the offspring chromosome with gene values common to both parent chromosomes and (ii) filling remaining genes with gene values that are unique to one or the other of the parent chromosomes; and selectively mutating genes values of the offspring chromosomes that are unique to one or the other of the parent chromosomes without mutating gene values of the offspring chromosomes that are common to both parent chromosomes, as in claim 8; and

*Species (iv)* generating offspring chromosomes from selected combinations of chromosomes of the present generation chromosome population; and replacing a selected chromosome of the present generation chromosome population with a selected offspring chromosome if either: (i) the selected offspring chromosome is more fit than the selected chromosome of the present generation chromosome population, or (ii) the selected offspring chromosome is as fit as the selected chromosome of the present generation chromosome population and the selected offspring chromosome has fewer expressed genes than the selected chromosome of the present generation chromosome population, as in claim 9.

### **Election WITH TRAVERSE**

#### **First restriction**

Applicants **elect Group I** WITH TRAVERSE.

The *basis of the traversal* is as follows. Groups I and II defined in the restriction do not correlate with the allegedly corresponding claims.

*Group I* is said to correspond to claims 1-12, 15-17, 19, and 21-25 which are alleged to be drawn to a system for executing biological experiments.

However, the referenced claims are not drawn to a system at all, and are not limited to "executing biological experiments". Rather, claims 1-12, 15-17, and 19 are drawn to a *method* for determining *a classifier that uses a subset [selected by the method] of associated measurements*. Claims 21-25 are directed to an optimization *method*, without recitation of "executing biological experiments".

*Group II* is said to correspond to claims 13, 14, 18, and 20 which are alleged to be drawn to a biological tracking system.

However, the referenced claims are not limited to a "biological tracking system". Rather, claims 13, 14, 18, and 20 are directed to a medical diagnostic test for determining whether a medical subject has a pathology of interest. Determining whether a medical subject has a pathology of interest is not biological tracking – at most, the determination of whether a medical subject has a pathology of interest is information that *might be used* in biological tracking, but which could be otherwise used (e.g., for medical diagnosis of a single patient).

For at least the foregoing reasons, Applicants urge that the first restriction be reconsidered and withdrawn.

The first restriction states that Applicants *must* make an election, and *must* identify the claims encompassing the elected invention. Restriction page 3. Responsive to this requirement, Applicants elect Group I which the Office has identified with claims 1-12, 15-17, 19, and 21-25. This election is made WITH TRAVERSE as set forth above.

Applicants note that, in regard to the first restriction, the Office has not addressed the issue of potential rejoinder of any unelected claims. "Rejoinder involves withdrawal of a restriction requirement between an allowable elected invention and a nonelected invention and examination of the formerly nonelected invention on the merits." MPEP § 821.04. "In order to be eligible for rejoinder, a claim to a nonelected invention must depend from or otherwise require all the limitations of an allowable claim." *Id.*

In the instant case, each unelected claim 13, 14, 18, and 20 depends from, and hence requires all limitations of, an elected base claim. Accordingly, the

claims of Group II appear to be candidates for rejoinder upon allowance of a Group I base claim. If the first restriction is maintained (and, again, Applicants earnestly urge that it be withdrawn), Applicants respectfully request that the Office provide written notice of the potential for rejoinder of any unelected claim(s) of Group II that may be withdrawn in the forthcoming next Office Action.

**Second restriction**

Applicants **elect Species (iv)** WITH TRAVERSE.

*The basis of the traversal* is as follows.

Species (iv) is not consistent with species (i), (ii), and (iii). Each of species (i), (ii), and (iii) are defined as embodiments of an operation of generating offspring chromosomes. However, alleged species (iv) is defined as a *combination* of generating offspring chromosomes *and* replacing a selected chromosome of the present chromosome population with a selected offspring chromosome.

The restriction alleges: "The species are independent or distinct because claims to the different species recite the mutually exclusive characteristics of each species. For example, generating offspring chromosomes based on values of genes of an expressed sub-set-size gene within a range defined by parent chromosomes, is separately classified and published from methods to generate offspring based on replacing combinations based on fitness." Office Action page 5.

The restriction identifies no support for this statement, such as identifying the alleged separate classifications or explaining what is meant by the term "separately published" in the context of restriction practice.

Moreover, species (i), (ii), and (iii) are manifestly *not* mutually exclusive of species (iv). Species (i), (ii), and (iii) are defined as embodiments of the operation of "generating offspring chromosomes". On the other hand, species (iv) is defined as a generic operation of "generating offspring chromosomes from selected combinations of chromosomes of the present generation chromosome population" in combination with a replacing operation. *Any* of the species (i), (ii), or (iii) are readable on the generic "generating" operation of species (iv).

Still further, the restriction has improperly equated claims, (namely claims 3, 7, 8, and 9) with species (namely species (i), (ii), (iii), and (iv)). *See* MPEP § 806.04(e) ("Claims are definitions or descriptions of inventions. Claims themselves are never species.").

For at least the foregoing reasons, Applicants urge that the second restriction be reconsidered and withdrawn.

The restriction states that Applicants *must* make an election of a species to be examined, and *must* identify the claims encompassing the elected species. Restriction page 5.

Respectfully, this is *not* the required response of Applicants to a species restriction. Rather, the requirement is to "include a proper election [of an elected species] along with a listing of all claims readable thereon [that is, on the elected species], including any claims subsequently added." MPEP § 809.02(a).

Responsive to this requirement, Applicants elect Species (iv). Applicants respectfully submit that *all claims are readable upon this elected species*. For example, each of claims 3, 7, and 8 recites limitations on "generating offspring chromosomes" that are readable on elected species (iv) which is generically defined as generating offspring chromosomes from selected combinations of chromosomes of the present generation chromosome population (in combination with the embodiment of the replacing operation).

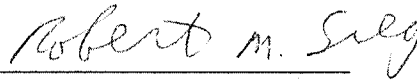
Applicants appreciate the express written notice of the potential for rejoinder of any withdrawn claims directed to unelected species, as per 37 C.F.R. § 1.141. *See* restriction page 6.

**CONCLUSION**

In view of the foregoing, Applicants urge that both the first and second restrictions be withdrawn, and urge that all claims 1-26 (as set forth in the Preliminary Amendment) be examined. Applicants look forward to a forthcoming Office Action reporting substantive examination of all claims 1-26.

In the event personal contact is deemed advantageous to the disposition of this case, the Examiner is requested to telephone the undersigned at 216.363.9000.

Respectfully submitted,



Thomas E. Kocovsky, Jr.  
Registration No. 28,383

Robert M. Sieg  
Registration No. 54,446

FAY SHARPE LLP  
The Halle Building, 5th Floor  
1228 Euclid Avenue  
Cleveland, OH 44115-1843  
Telephone: 216.363.9000 (main)  
Telephone: 216.363.9122 (direct)  
Facsimile: 216.363.9001  
E-Mail: [tkocovsky@faysharpe.com](mailto:tkocovsky@faysharpe.com)